

(PCT Article 36 and Rule 70)

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/018854

Box No. I

Basis of the report

1. With regard to the
- language**
- , this report is based on:



the international application in the language in which it was filed



the translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:



international search (Rule 12.3(a) and 23.1(b))



publication of the international application (Rule 12.4(a))



international preliminary examination (Rule 55.2(a) and/or 55.3(a))

2. With regard to the
- elements**
- of the international application, this report is based on (
- replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*
- ):



the international application as originally filed/furnished



the description:

pages 1-22 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_



the claims:

nos. 1-11, 13-16, 18-21 as originally filed/furnished

nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_



the drawings:

sheets fig. 1-10 as originally filed/furnished

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_



a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

- 3.
- ☒
- The amendments have resulted in the cancellation of:



the description, pages \_\_\_\_\_

the claims, nos. 12, 17

the drawings, sheets/figs \_\_\_\_\_

the sequence listing (*specify*): \_\_\_\_\_any table(s) related to sequence listing (*specify*): \_\_\_\_\_

- 4.
- ☒
- This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages 3, 3/1, 4, 4/1, 5, 5/1, 6, 6/1, 22the claims, nos. 1-5, 10, 11, 13-16, 18-23

the drawings, sheets/figs \_\_\_\_\_

the sequence listing (*specify*): \_\_\_\_\_any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/018854

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-11, 13-16, 18-21	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-11, 13-16, 18-21	NO
Industrial applicability (IA)	Claims	1-11, 13-16, 18-21	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
<p>Document 1: JP 2002-282703 A (Toray Industries, Inc.), 02 October 2002, claims, paragraphs [0005] to [0025], examples, drawings</p> <p>The inventions set forth in claims 1 to 11, 13 to 16 and 18 to 21 do not involve an inventive step in the light of document 1 cited in the international search report.</p> <p>Document 1 indicates that a photocatalyst-containing compact is laminated onto a sheet-like fiber structure for use (paragraph [0021]), and further indicates that because it is common for said fiber structures to be fabricated by means thermal bonding, it is preferable for the photocatalyst-containing support layer to be configured from a thermoplastic synthetic resin (paragraphs [0019] and [0022]); therefore, it would have been easy for a person skilled in the art to conceive of thermally bonding the photocatalyst-containing support layers.</p> <p>In addition, it is normal for the bonding strength to be compromised if the content of the photocatalyst is too high, and it is also normal for the photocatalytic action to be compromised if the content of the</p>			

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.

PCT/JP2004/018854

**Box No. V****Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

photocatalyst is too low; therefore, it would have been easy for a person skilled in the art to conceive of delimiting an optimal range for the content of the photocatalyst.

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box I.4

The Amendment Forms Dated 24 October 2005

(1)

The amendments to claims 1 and 2, which stipulate that the "bonding surfaces are formed from the abovementioned apatite-coated photocatalyst particles and a thermally fusible material," go beyond the scope of the disclosure in the international application as originally filed.

(2)

The embodiments only set forth a feature wherein the bonded sections of the photocatalyst sheets that comprise a prescribed substrate, which is configured by combining a polyester fiber base material and a coating layer of a polyvinyl chloride resin (embodiments 1 to 5) or by combining a glass fiber fabric base material and a coating layer of a PTFE or FEP (embodiments 6 to 10), a prescribed coating layer, which is coated onto both surfaces of said substrate, and a photocatalyst-containing layer, which is coated onto only one surface of said coating layer, are delaminated at a rate of 50 mm/min. Therefore, the description as originally filed does not set forth a feature wherein photocatalyst sheets comprising a photocatalyst-containing layer that is provided directly to the substrate (claims 3, 15 and 18 to 21) or photocatalyst sheets comprising a substrate, a coating film layer provided to one surface or both surfaces of the substrate, and a photocatalyst-containing

## Supplemental Box

layer coated upon the coating film layer that was provided on one surface of the substrate or upon the coating film layer that was provided on both surfaces of the substrate (claims 4, 15 and 18 to 21) are subjected to a delamination test. Likewise, the description as originally filed does not set forth a feature wherein photocatalyst sheets that comprise base materials or resins other than those set forth in the embodiments are subjected to a delamination test at a rate of 50 mm/min. Consequently, the amendments to claims 3, 4, 15 and 18 to 21 go beyond the scope of the disclosure in the international application as originally filed.

The Amendment Forms Dated 20 April 2006

The description as originally filed does not set forth a feature wherein photocatalyst sheets that comprise a substrate configured from synthetic fibers or inorganic fibers other than those set forth in the embodiments and/or a coating layer configured from another resin or rubber (claims 1, 3, 5 to 11, 13, 14 and 22) are thermally bonded and then delaminated at a delamination rate of 50 mm/min. Furthermore, the disclosures in claims 2, 4, 15, 16, 18 to 21 and 23 cannot be said to exclusively signify that the photocatalyst-containing layers are thermally bonded. In addition, the embodiments do not mention that the fluoro-resin is selected from among PTFE, FEP and PFA. Consequently, the amendments to claims 1 to 11, 13 to 16 and 18 to 23 go beyond the scope of the disclosure in the international application as originally filed.